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Page 3.8-28, 3.8.2.3.3.5

215 Effects to razorback sucker in Lake Mead and the lower Colorado River are not addressed in this section. There are some significant potential adverse effects to this species from the proposed action and its associated actions and they need to be discussed in the DEIS. This includes the effects to Lake Mead spawning habitats and success, backwater and main channel habitat losses in the lower river, and the effects of reductions in flood flows on habitats and other competing species. Why were models for Lake Mead elevations not run using spawning habitat elevations? Selection of any elevation appears possible and is done for recreation levels.

*Recreation*

216 This section also does not address the effects to recreation in the lower Colorado River reaches below Hoover, Davis and Parker Dams.

217 While the data presented in this section is not immediately comparable for use with special status species, several of the ways of presenting data could have been useful. For example, there are graphs that show the probabilities of various lake levels over time that are based on protection of recreational facilities. These types of graphs and the associated tables of probabilities would also be useful in evaluating the effects to important riparian and spawning areas. The probabilities, as well as the increases in range of probabilities is very important to the analysis of more than recreational impacts.

Page 3.9-2, 3.9.2.2

218 paragraph 2: Include Lake Mead monthly fluctuations along with those for Lake Powell. Seasonal changes in fluctuations and water levels, especially during high use periods, can have large effects on recreationists.

Page 3.9-6, Table 3.9-2

219 Please clarify whether improvements are existing or proposed.

Page 3.9-13, 3.9.2.3

220 paragraph 2: Since lake fluctuations already exceed 25 feet, how much more adaptation is needed to accommodate the new levels of fluctuations?

Page 3.9, Table 3.9-1

221 It might be more correct to say that the probability evens out from 2040-2050 with the real increase occurring between 2030-2040.

Page 3.9-36, 3.9.5.3.1

222 paragraph 2: All three states in the lower Colorado River basin do creel and other types of angler use and success surveys. This is as close to direct information as is available, and may be more indicative of angler satisfaction than availability of launch facilities.

215: The analysis has been revised to discuss potential effects to razorback sucker. Ongoing efforts to protect the species under the ESA will continue under baseline conditions and each of the alternatives. Because there are no known specific threshold elevations for razorback spawning, determining the specific probabilities associated with a particular elevation could not be done. The text was revised to mention ongoing studies of the razorback sucker population in Lake Mead.

216: Reclamation has determined that fluctuations in flows below Hoover Dam to the SIB under the alternatives would be within the historical operating range of the river and would, therefore, not affect recreation within these areas. The FEIS does consider the potential effects of increases in the temperature of water released from Hoover Dam under decreased reservoir elevations on sport fishing within the river between Hoover Dam and Lake Mohave in Section 3.7.3.

217: The analysis of probabilities associated with the occurrence of reservoir elevations below specified elevations was used in the recreation analysis because specific elevations were identified for recreation resources. Other analyses in the EIS, including the analysis done to determine potential effects on special-status species, did not identify specific elevations with which to analyze probabilities. In these instances, the model projections of certain elevations, typically the median elevation in each year, were used to identify the differences between the alternatives and baseline conditions.

218: Section 3.9.2.2 of the FEIS has been revised to include the typical annual range of Lake Mead elevations. Differences between baseline conditions and alternatives shown for a single month represent differences throughout the year.

219: Table 3.9-2 indicates existing facilities with the exception of Antelope Point. For Antelope Point, proposed facilities are identified in the Development Concept Plan for the facility. A footnote in Table 3.9-2 and the written description of Antelope Point in the FEIS provide information with regard to existing facilities at Antelope Point.

220: The paragraph referenced discusses results from the Combrink and Collins study on the effects of general lake level fluctuations on reservoir facilities at Lake Powell. As stated in the discussion "if lake fluctuations 'exceed' 25 feet, special adjustments would be necessary." Although required adjustments at specific facilities are not known, such adjustments would be necessary both under baseline conditions and the alternatives.

221: It is assumed based on the comment content that the commentor is referring to the discussion below Figure 3.9-1 on page 3.9-14. Discussions of modeling results have been revised in the FEIS.

222: Relevant information on angler use and success rates at Lake Mead, Lake Powell and Lake Mohave from the appropriate resource agencies in Utah, Arizona, and Nevada has been incorporated into Section 3.9.5.. However, it should be noted that, as discussed in Section 3.9.5, catch rates are not expected to be affected by interim surplus criteria.

223 | paragraph 3: The DEIS has not done a complete job in documenting the potential effects to sport or native fish populations that may result from the implementation of the surplus criteria. There is insufficient analysis to say what will be the effects on angler success rates.

*Energy Resources*

224 | Page 3.10-2, 3.10.2.2.1  
paragraph 3: Since Hoover Dam has the larger powerplant, why did Glen Canyon produce more power in 1998? Is this a usual circumstance?

225 | Page 3.10-3, 3.10.2.2.2  
paragraph 2: The operable capacity of Glen Canyon is previously stated at 1200 MW, here is it 1048 MW. Which is correct?

226 | Page 3.10-4, 3.10.2.3.1  
Please include in this section a discussion of the renegotiation of power contracts for Hoover and Glen Canyon and their effects to power production gains and losses. Depending on the amount of power under the contracts, there may not be any legitimate deficits in the future that could be attributed to the proposed actions. With the power generation resources already stretched during peak use periods, there may be significant monetary gains from having some additional power generated during the 2000-2015 period.

*Air Quality*

227 | Page 3.11-1, 3.11.2.1  
paragraph 2: Where were the 30 and 45 degree slopes for the reservoirs derived from?

*Visual Resources*

228 | Page 3.12-5, 3.12.4.1.1  
paragraph 1: All reservoir elevations are temporary. Average conditions are not likely to result in an increase in reservoir elevations as uses increase over time. Only high runoff years would be able to refill a reservoir.

229 | Page 3.12-5, 3.12.4.1.2  
paragraph 1: In the section on cultural resources, the fluctuation in Lake Mead is discussed at 10 to 75 feet. Here it is 20 feet. Please explain.

230 | paragraph 2: This paragraph (and the following pages) is a good example of the type of information that could be provided for other effects sections to set the stage for the reader to understand the magnitude of the effects. We suggest that this type of approach be used in other sections. Note as was mentioned for Lake Powell in the preceding comments, that average inflow years are not likely going to raise reservoir elevations in the future.

223: Sections 3.7.3 and 3.9.5, both of which address sport fishing and the sport fishery, have been expanded. Special status fish species are addressed in Section 3.8.2.2.2.

224: The energy output of a powerplant is a function of the net effective head, the efficiency of the turbine and the quantity of water through the turbine. Obviously this changes from year to year. However, as a point of interest, the 30-year average conversion efficiency of Glen Canyon and Hoover is 463.8 kWh/AF and 456.2 kWh/AF, respectively.

225: The nameplate capacity of Glen Canyon is about 1,200 MW. Because of the flow restriction of 25,000 cfs, the powerplant can only produce 1,048 MW at maximum head.

226: This analysis does not make any assumptions related to contract renewals. However, it is possible that Western Area Power Administration would only make contract commitments when the current contracts terminate based on the foreseeable amounts of capacity and energy during the next contract term. Potential increases or decreases in revenue from changes in power production are beyond the scope of analysis necessary to appropriately assess the potential effects of interim surplus criteria.

227: Average Lake Powell and Lake Mead shoreline slopes used for the air quality analysis are based on general estimates by persons with knowledge of the terrain surrounding the two reservoirs. It should be noted that estimates were developed for the purposes of comparing alternatives to baseline conditions, and determination of the actual slope was not necessary for this comparison.

228: The temporary nature of reservoir levels has been noted in the discussion in the EIS. The increase of median Lake Powell elevations after the interim period is due to the suspension of equalization requirements as discussed in Section 1.4.2.

229: Section 3.13.4 discusses historical annual fluctuations of Lake Mead, which ranged to 75 feet. The 10 to 20 feet fluctuations discussed in Section 3.12.4.1.2 are projected based on modeling results.

230: Comment noted. Discussion of potential effects have been revised as practicable to clarify information presented in the FEIS. Note that the methodology used for analysis of various resources was dependent upon the amount of information available and the potential effects identified through modeling.